ORDER NO. SD83052487C9

Service Manual

Turntable System

SL-Q300(K)

[E], [EK], [XL], [EG], [EB],
[EH], [EF], [Ei], [XA],
[XM], [PA], [PE], [PC]

Areas

* [E] is available in Switzerland and Scandinavia.
* [EK] is available in United Kingdom.
* [XL] is available in Australia.
* [EG] is available in F.R. Germany.
* [EB] is available in Belgium.
* [EH] is available in Holland.
* [EF] is available in France.
* [Ei] is available in Italy.
* [XA] is available in Southeast Asia, Oceania, Africa, Middle Near East and Central South America.
* [XM] is available in Central South America.
* [PA] is available in far East PX.
* [PE] is available in European Military.
* [PC] is available in European Audio Club.

* The colors of this model include silver and black.
* The black type model is provided with (K) in the Service Manual.

Please use this manual together with the service manual for Model No. SL-Q300, Order No. SD83042472C9.

CHANGES

■ REPLACEMENT PARTS LIST

Note:
Ⓚ-marked parts are used for black only, while
○-marked parts are for silver type only.

Ref. No.	Change of Part No. SL-Q300 (ORDER NO. SD83042472C9) → SL-Q300 (K)		Part Name & Description	Per Set (Pcs.)	Remarks
CABINET and CHASSIS PARTS					
9	SFACQ63M01R	SFACQ63M01R ○	Cabinet (Silver Type)	1	
		SFACQ63M21R Ⓚ	Cabinet (Black Type)	1	
TONEARM PARTS					
41	SFPAMQ3202A	SFPAMQ3202A ○	Tonearm (Silver Type)	1	
		SFPAMQ3204A Ⓚ	Tonearm (Black Type)	1	
43	SFGK170–01	SFGK170–01 ○	Rubber Cap (Silver Type)	1	
		SFGK171F01 Ⓚ	Rubber Cap (Black Type)	1	
PACKING PARTS					
P1	SFHPQ63C01 [EF] only	SFHPQ63C01 [EF] ○	Carton Box (Silver Type)	1	
		SFHPQ63C21 [EF] Ⓚ	Carton Box (Black Type)	1	
	SFHPQ63M01 [Other areas]	SFHPQ63M01 [Other areas] ○	Carton Box (Silver Type)	1	
		SFHPQ63M21 [Other areas] Ⓚ	Carton Box (Black Type)	1	

Technics

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P.O. Box 288, Central Osaka Japan

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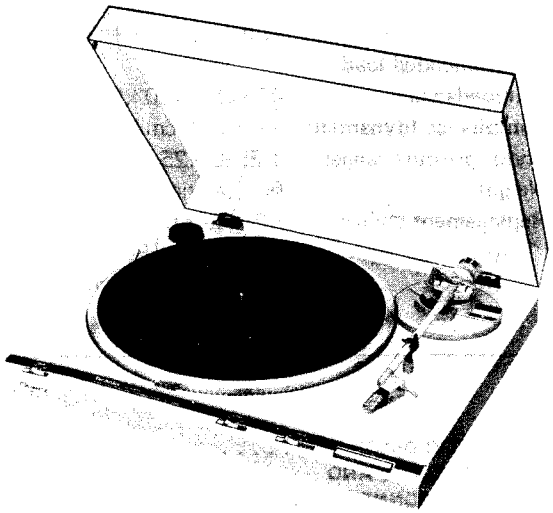

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* [PA] is available in far East PX.
* [PE] is available in European Military.
* [PC] is available in European Audio Club.

T4P is the standard mark for the "P-mount" plug-in connector system. Products carrying this mark are interchangeable and compatible with each other.

Specifications

Specifications are subject to change without notice for further improvement.
Weight and dimensions shown are approximate.

■ General

Power supply:	For United Kingdom and Australia : 240V, AC 50 Hz For continental Europe: 220V, AC 50 Hz For others: ~ 110-120/220-240V 50/60 Hz
Power consumption:	5 W
Dimensions: (W x H x D)	43 x 10 x 37.5 cm (16-15/16" x 3-15/16" x 14-3/4") Maximum height when top (dust cover) is open. 43 x 37 x 41 cm (16-15/16" x 14-9/16" x 16-1/8")
Weight:	4.5 kg (9.9 lb.)

■ Turntable section

Type:	Quartz direct drive
Features:	Automatic turntable Auto start Auto return Auto stop Repeat play Manual play
Drive method:	Direct drive
Motor:	Brushless DC motor
Drive control method:	Quartz-phase-locked control
Turntable platter:	Aluminum die-cast Diameter 31.2 cm
Turntable speeds:	33-1/3 rpm and 45 rpm
Wow and flutter:	0.012% WRMS* 0.025% WRMS (JIS C5521) ± 0.035% peak (IEC 98A Weighted)

*This rating refers to turntable assembly alone, excluding effects of record, cartridge or tonearm, but including platter. Measured by obtaining signal from built-in frequency generator of motor assembly.

Rumble:	–56 dB (IEC 98A Unweighted) –78 dB (IEC 98A Weighted)

■ Tonearm section

Type:	Statically-balanced straight tonearm Plug-in connector cartridge system
Effective length:	230 mm (9-1/16")
Overhang:	15 mm (19/32")
Tracking error angle:	Within 2°32' at the outer groove of 30 cm (12") record. Within 0°32' at the inner groove of 30 cm (12") record.
Effective mass:	7.5 g (without cartridge) 13.5 g (including cartridge)

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SL-Q300

Stylus pressure adjustment range:	1.25 ± 0.25 g	**Output voltage:**	2.5 mV at 1 kHz, 5 cm/s. zero to peak lateral velocity (7 mV at 1 kHz, 10 cm/s. zero to peak 45° velocity [DIN 45 500])
Applicable cartridge weight:	6 g	**Channel separation:**	22 dB at 1 kHz
Phono cable capacitance:	100pF	**Channel balance:**	Within 2 dB at 1 kHz
■ Cartridge section		**Recommended load impedance:**	47 kΩ ~ 100 kΩ
Type:	Moving magnet stereo cartridge EPC-P28K (For [PA], [PE] and [PC] areas.) EPC-P30K (For others)	**Compliance (dynamic):**	12 x 10^{-6} cm/dyne at 100 Hz
		Stylus pressure range:	1.25 ± 0.25 g (12.5 ± 2.5 mN)
Magnetic circuit:	All laminated core	**Weight:**	6 g (cartridge only)
Frequency response:	10 Hz ~ 30 kHz (For [PA], [PE] and [PC] areas.) 10 Hz ~ 40 kHz (For others) 20 Hz ~ 10 kHz ± 1 dB	**Replacement stylus:**	EPS-P28ES (For [PA], [PE] and [PC] areas.) EPS–30ES (For others)

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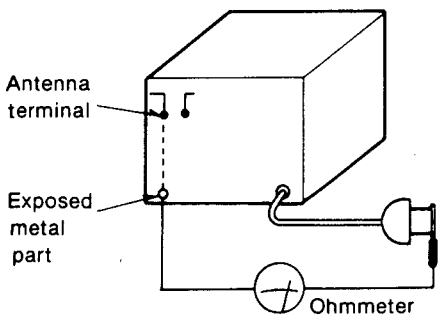
■ SAFETY PRECAUTIONS

1. Before servicing, unplug the power cord to prevent an electric shock.
2. When replacing parts, use only manufacturer's recommended components for safety.
3. Check the condition of the power cord. Replace if wear or damage is evident.
4. After servicing, be sure to restore the lead dress, insulation barriers, insulation papers, shields, etc.
5. Before returning the serviced equipment to the customer, be sure to make the following insulation resistance test to prevent the customer from being exposed to a shock hazard.

• INSULATION RESISTANCE TEST

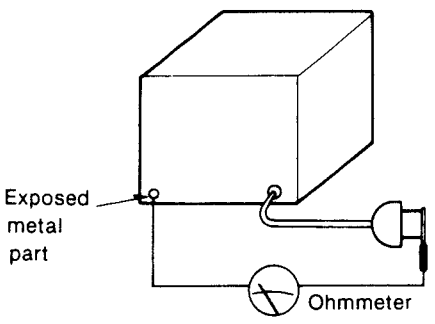
1. Unplug the power cord and short the two prongs of the plug with a jumper wire.
2. Turn on the power switch.
3. Measure the resistance value with ohmmeter between the jumpered AC plug and each exposed metal cabinet part, such as screwheads antenna, control shafts, handle brackets, etc. Equipment with antenna terminals should read between 3MΩ and 5.2MΩ to all exposed parts. (Fig. A) Equipment without antenna terminals should read approximately infinity to all exposed parts. (Fig. B)

Note: Some exposed parts may be isolated from the chassis by design. These will read infinity.



(Fig. A)

Resistance = 3MΩ—5.2MΩ

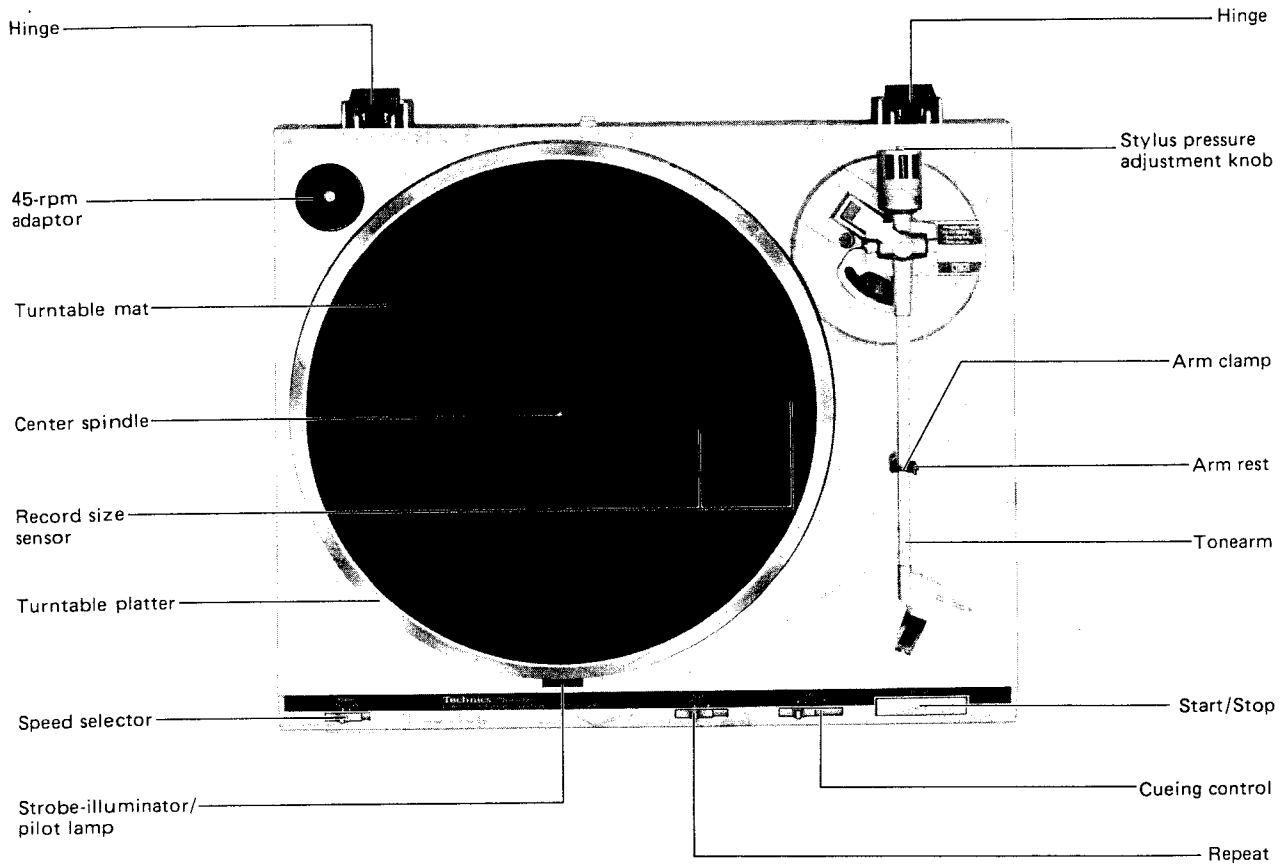


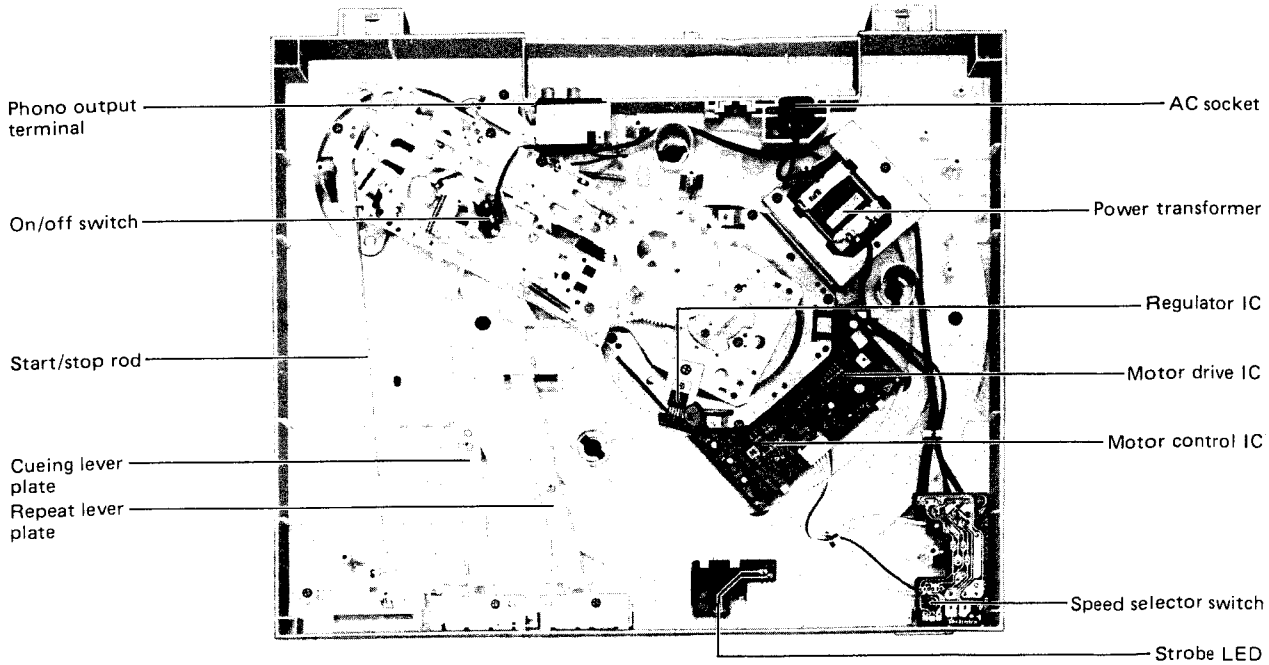
(Fig. B)

Resistance = Approx ∞

4. If the measurement is outside the specified limits, there is a possibility of a shock hazard. The equipment should be repaired and rechecked before it is returned to the customer.

■ LOCATION OF CONTROLS





- The power supply for this unit varies depending upon the areas. Also, the parts used for power supply are different. So, refer to the circuit diagram and the replacement parts list.

* [EK], [XA], [XM], [PA], [PE] and [PC] areas are provided with voltage selector.

■ DISASSEMBLY INSTRUCTIONS

• How to remove the cartridge

1. Open the dust cover.
2. Clamp the tonearm to the arm rest.
3. Remove the cartridge setscrew **(Fig. 1 : ❶)**, and then pull out the cartridge in the direction of the arrow.

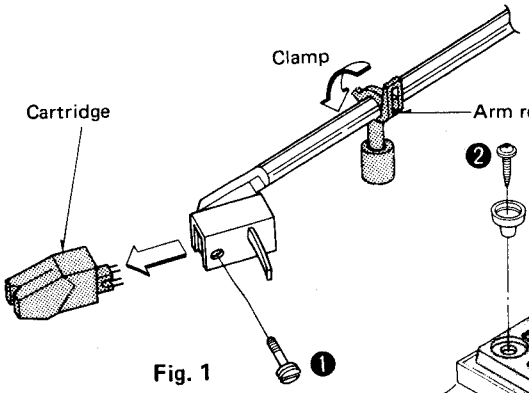


Fig. 1

• How to remove the bottom board

1. Clamp the tonearm to the arm rest.
2. Remove the turntable pllater, and close the dust cover.
3. Turn over the unit on a soft cloth taking care not to damage the cabinet and dust cover.
4. Remove the 5 setscrews **(Fig. 2 : ❷ ~ ❻)** of the bottom board.

   Please note that the front and rear insulators are different from each other.

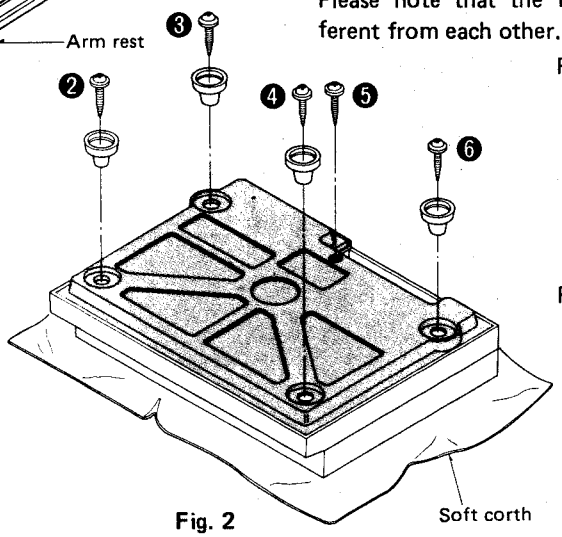
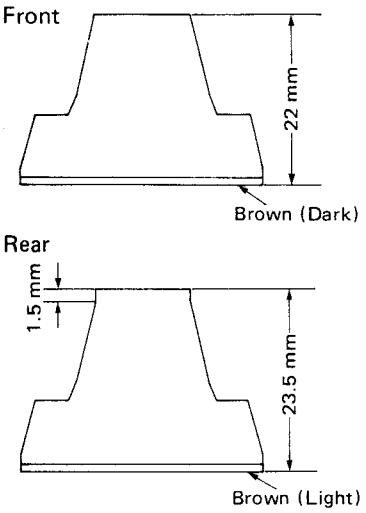


Fig. 2



• How to remove the automatic mechanism plate

1. Move the repeat knob to "**off**" position and the cueing control knob to "**cueing down**" position.
2. Remove the bottom board. **(Refer to "How to remove the bottom board.")**
3. Remove the 6 setscrews **(Fig. 3 : ❼ ~ ⓬)** of the automatic mechanism plate.
4. Remove the start/stop rod, and push the record size detection lever in the direction of the arrow,then lift the automatic mechanism plate. **(Fig. 3)**

* When fitting the automatic mechanism plate, check the following points.

(1) Turn the main gear until it comes to the no gear part.

(2) Shift the cueing lever plate and repeat lever plate in the direction of the arrows. **(Fig. 3)**

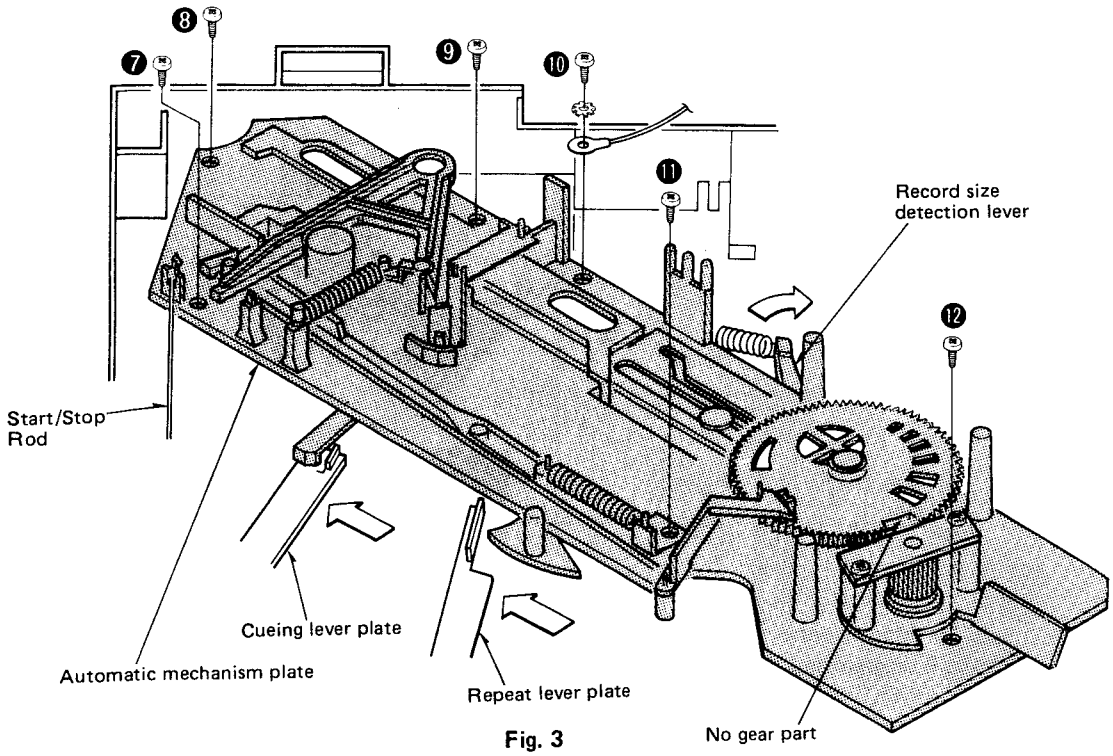


Fig. 3

• How to remove the stator frame

1. Remove the automatic mechansim plate. **(Refer to "How to remove the automatic mechanism plate.")**
2. Remove the 4 setscrews **(Fig. 4 : ⑬ ~ ⑯)** of the stator frame.
3. Remove the stator frame from the 2 claws in the direction of the arrow. **(Fig. 4)**

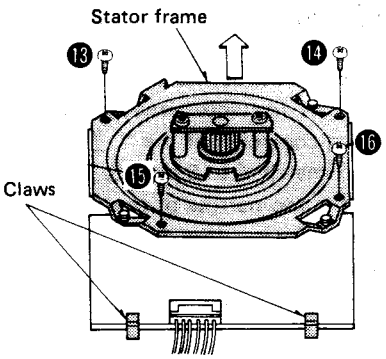


Fig. 4

• How to remove the PU fixing plate

1. Remove the automatic mechanism plate. **(Refer to "How to remove the automatic mechanism plate.")**
3. Remove the PU fixing plate setscrew **(Fig. 5 : ⑰)**. Then the PU fixing plate can be removed.

• How to remove the tonearm

1. Remove the PU fixing plate. **(Refer to "How to remove the PU fixing plate.")**
2. Remove the shielding plate setscrew **(Fig. 5 : ⑱)**.
3. Unsolder the 5 lead wires of the phono output terminal. **(Fig. 5)**
4. Remove the tonearm setscrews **(Fig. 5 : ⑲ , ⑳)**. Then the tonearm can be removed.

• How to remove the lift base and arm lift

1. Remove the tonearm. **(Refer to "How to remove the tonearm".)**
2. Remove the 2 setscrews **(Fig. 6 : ㉑ , ㉒)** of the lift base. Then the lift base can be removed.
3. Remove the screw **(Fig. 6 : ㉓)** of the arm lift. Then the arm lift can be removed.

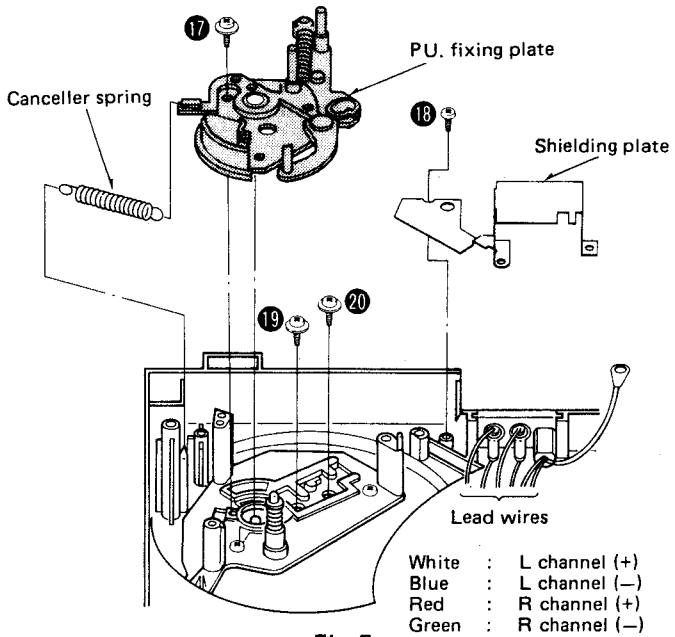


Fig. 5

• How to remove the Hall element

1. Remove the turntable platter.
2. Remove the terminal solder by use of solder sucker.
3. Hold the Hall element with a tweezers and remove it while touching the soldering iron to the terminal. **(Fig. 7)**

Note: Fit the Hall element with the part No, print up. The reverse in terminal position is allowable provided that the printed side is up.

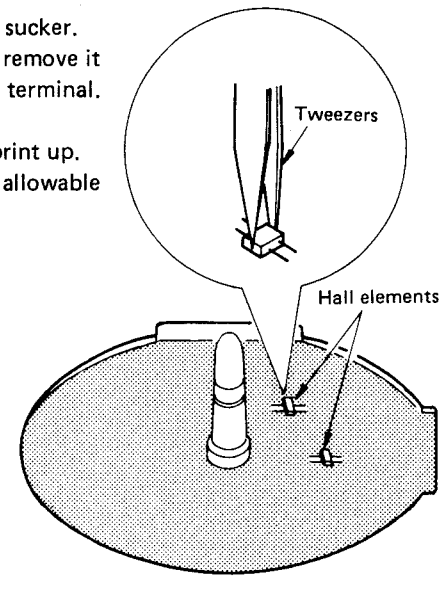


Fig. 7

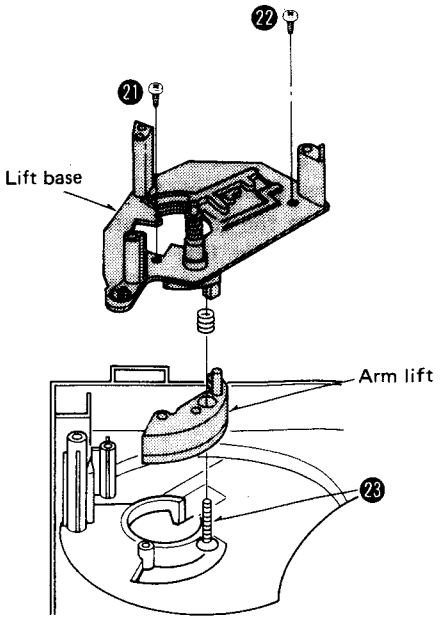


Fig. 6

■ MEASUREMENTS AND ADJUSTMENT

• Arm-lift height adjustment

The arm-lift height (distance between the stylus tip and the record surface when the cueing control is at the " ▼ " position) has been adjusted at the factory to aproximately 4 to 6 mm (5/32" ~ 1/4"). **(Fig. 8)**

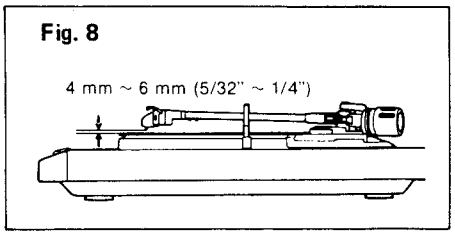
If the clearance is too narrow or too wide, turn the adjustment screw clockwise or counterclockwise. **(Fig. 9)**

Clockwise rotation

—distance between the record and stylus tip is decreased.

Counterclockwise rotation

—distance between the record and stylus tip is increased.



• Adjustment of automatic start position

If the stylus does not land in the lead-in groove, adjust as follows.

1. Clamp the tonearm to the arm rest.
2. Remove the rubber cap. **(Fig. 10)**
3. Turn the screw with a screwdriver, clockwise or counterclockwise as necessary.

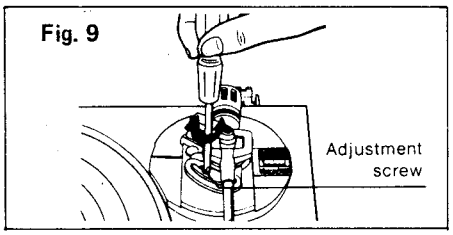
If the stylus tip sets down too far in the recorded groove.

—turn counterclockwise.

If the stylus tip sets down outside of the record.

—turn clockwise.

Adjust so the stylus tip lands 1 ~ 2 mm in from the edge of the record.



• Adjustment of automatic return position

(Fig. 11)

(Remove the rubber cap.)

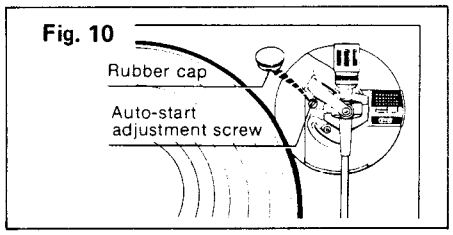
1. Put the stylus protector on the cartridge.
2. Move the tonearm toward the center of the record.
   The auto-return adjustment screw will appear.

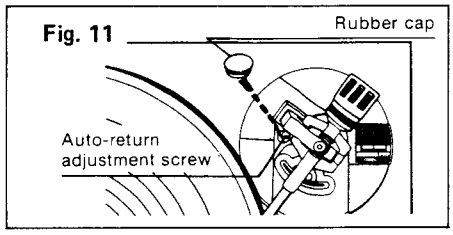
If the tonearm tends to return to the arm rest before the play has finished.

—turn counterclockwise.

If the toenarm fails to return after the final groove.

—turn clockwise.

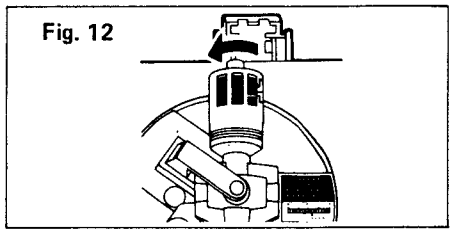




■ ABOUT STYLUS PRESSURE (TRACKING FORCE)

The tracking force is already set to 1.25 g so no adjustment is necessary. When records with a high modulation level are played or when the turntable is used where the temperature is low or in a location subject to vibrations, sound may be distorted and the stylus may skip. If this occurs, rotate the stylus-pressure adjustment knob at the rear to the "1.5" setting. **(Fig. 12)**

If the knob is set to "1.0" the tracking force will be lighter.



■ TROUBLE SHOOTING

Turntable does not rotate

- AC voltage of FC5 terminal (AC18V) — NO → T1, F1, AC cord
- YES
- DC voltage of regulator IC (IC1) ① 22V, ② 0V, ③ 12V — NO → S1, D1, C4, IC1
- YES
- **Power supply input terminal** — DC voltage of drive and control IC's; IC101 ① pin 12V; IC201 ⑱ pin 8.5V — NO → IC101, IC201, R204, R208
- YES
- **Brake circuit** — DC voltage of IC201 pin ⑫ . . . . 0.6V — NO → IC201, IC101, C107
- YES
- **Drive coil and Hall element**
  1. Conduction check of drive coils (A1 ~ A4)
  2. DC voltage of Hall elements (H101, H102) ※1

	1	2	3	4
Voltage	3.8	7.6	3.8	0

  — NO → Drive coil, H101, H102, IC101
- YES
- **Drive circuit**
  1. DC voltage at each pin of drive IC (IC101)

	2	3	8	10	11
Voltage	0.6	12	0	4.9	4.7

  2. Waveform between pins ④ and ⑤ (⑥ and ⑦) of drive IC

  33rpm. . . . . 303ms — NO → IC101

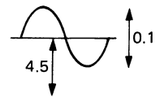
Speed cannot be changed

- **Speed selector circuit** — DC voltage of pin ⑨ of control IC (IC201); 33rpm . . . . . 0V; 45rpm . . . . . 5.3V — NO → S2, IC201

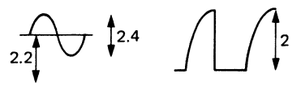
※1
1 When the voltage at pins ① and ③ is about 1/2 of the voltage at pin ②, the Hall element is normal.
2 If the voltage is abnormal, unsolder the pins ① and ③, and check the voltage again. (When it is 1/2 of the voltage at pin ②, the Hall element is normal but drive IC is defective.)
3 If one Hall element is defective, the rotation is turntable position cannot be detected.

Unsatable rotation

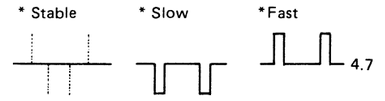
- **FG amplifier circuit**
  1. Conduction check of FG coil.
  2. Waveform of pin ⑮ of control IC (IC201)



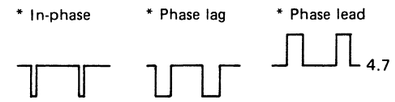
  33rpm 20ms, 45rpm 14ms — NO → FG coil, IC201, C201 ~ C203, R203, R205
- YES
- **Quartz oscillator circuit** — Waveforms of pins ③ and ④ of control IC (IC201)



  ③ pin 0.24μs, ④ pin 1.9μs — NO → X201, IC201, C204 ~ C206
- YES
- **Speed control circuit** — Waveform of pin ⑭ of control IC (IC201)



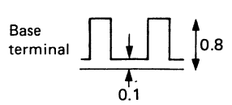
  33rpm 20ms (50.5 Hz) — NO → IC201, IC101
- YES
- **Phase control circuit** — Waveform of pin ⑬ of control IC (IC201)



  33rpm 10ms (101 Hz) — NO → IC201, IC101

Strobe dones light up

- **Strobe drive circuit** — Waveform of strobe drive transistor (Q11)

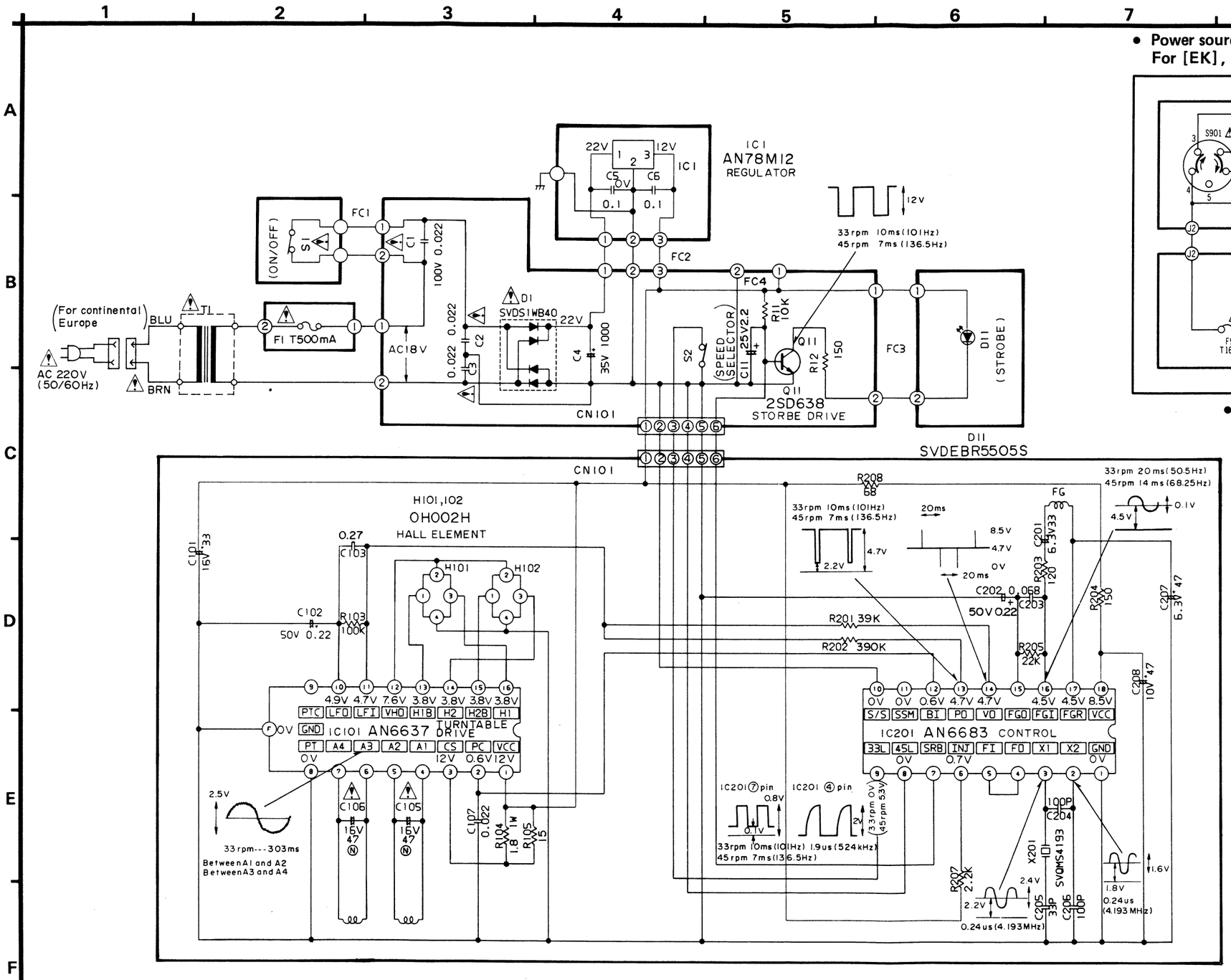


  33rpm 10ms, 45rpm 7ms — NO → IC201, Q11, D11

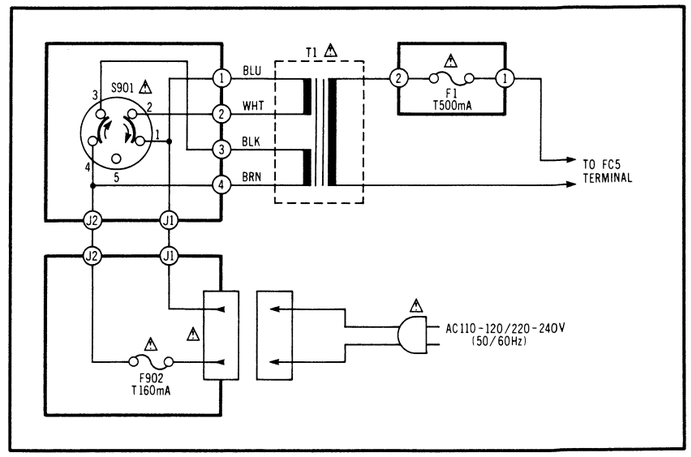
SL-Q300

■ SCHEMATIC DIAGRAM

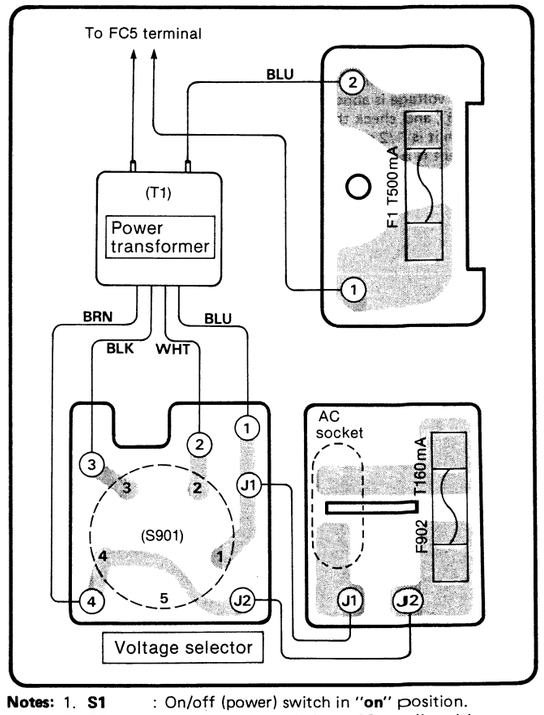
(This schematic diagram may be modified at any time with the development of new technology.)



• Power source circuit
For [EK], [XA], [XM], [PA], [PE] and [PC] areas



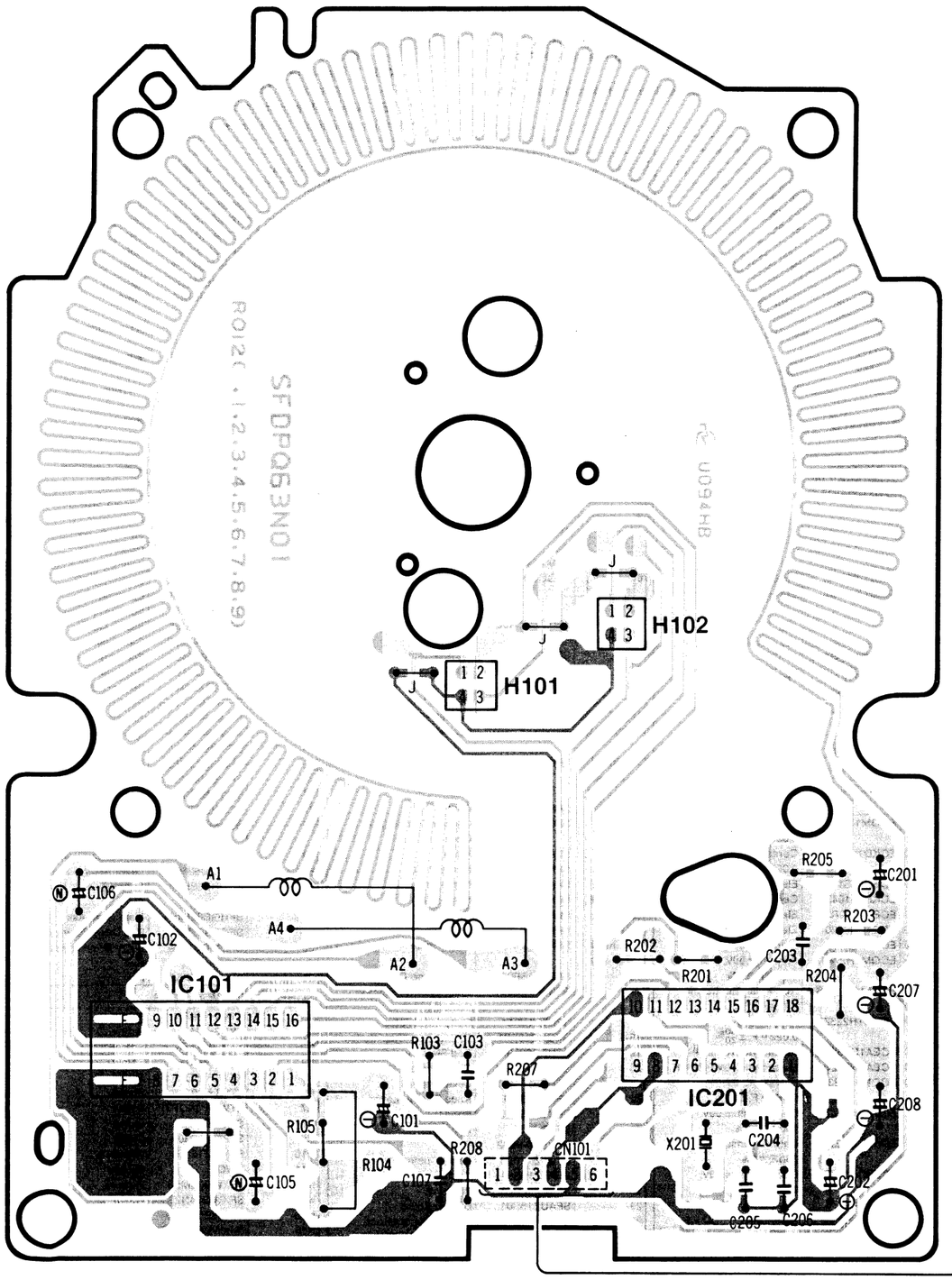
• Power source circuit P.C.B.
For [EK], [XA], [XM], [PA], [PE] and [PC] areas

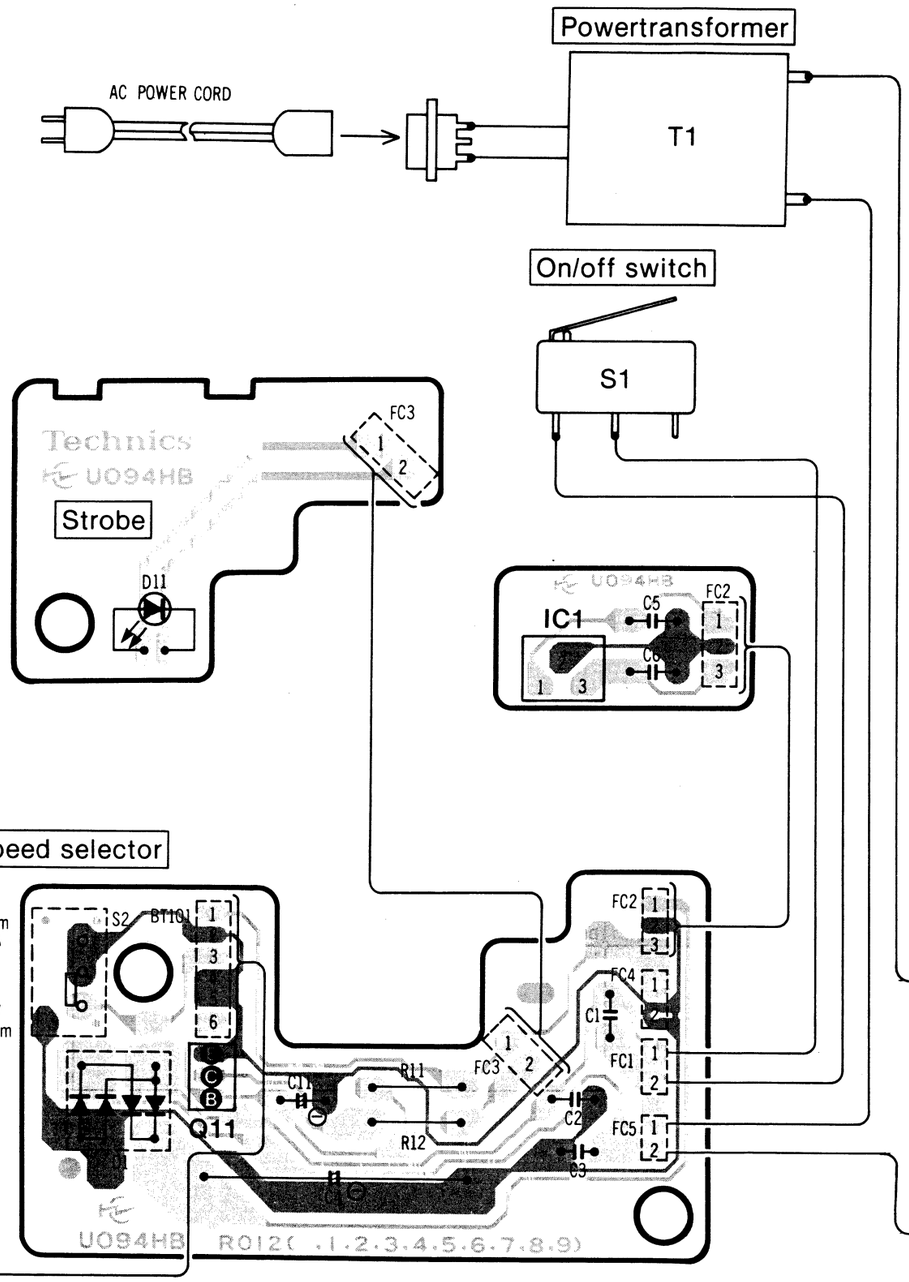


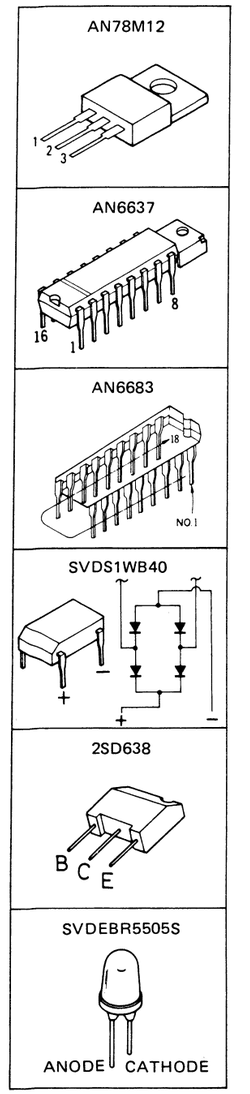
Notes:
1. **S1** : On/off (power) switch in "**on**" position.
2. **S2** : Speed selector switch in "**33 rpm**" position.
3. **S901** : Voltage selector switch in "**110-120V**" position.
4. The voltage value, and waveforms are the reference voltage values of this unit measured by DC electronic voltmeter (high impedance) and oscilloscope on the basis of chassis when the unit is in play.
5. ——— +B voltage lines.
6. Important safety notice:
   Components identifier by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacture's specified parts.

■ CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM

Ground (Earth) line

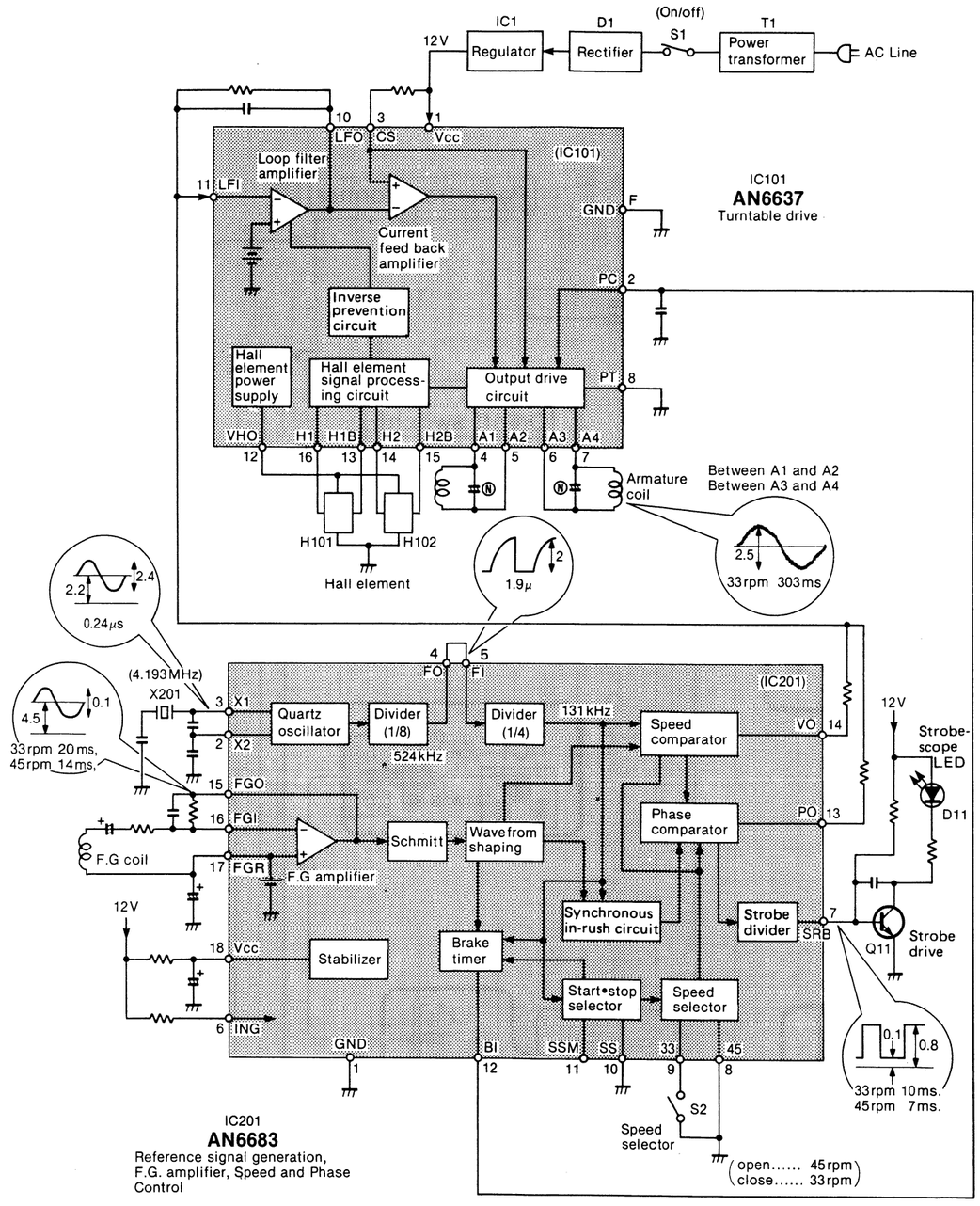






- **Terminal guide of IC's transistor and diodes**

■ BLOCK DIAGRAM



IC201
AN6683
Reference signal generation, F.G. amplifier, Speed and Phase Control

■ REPLACEMENT PARTS LIST

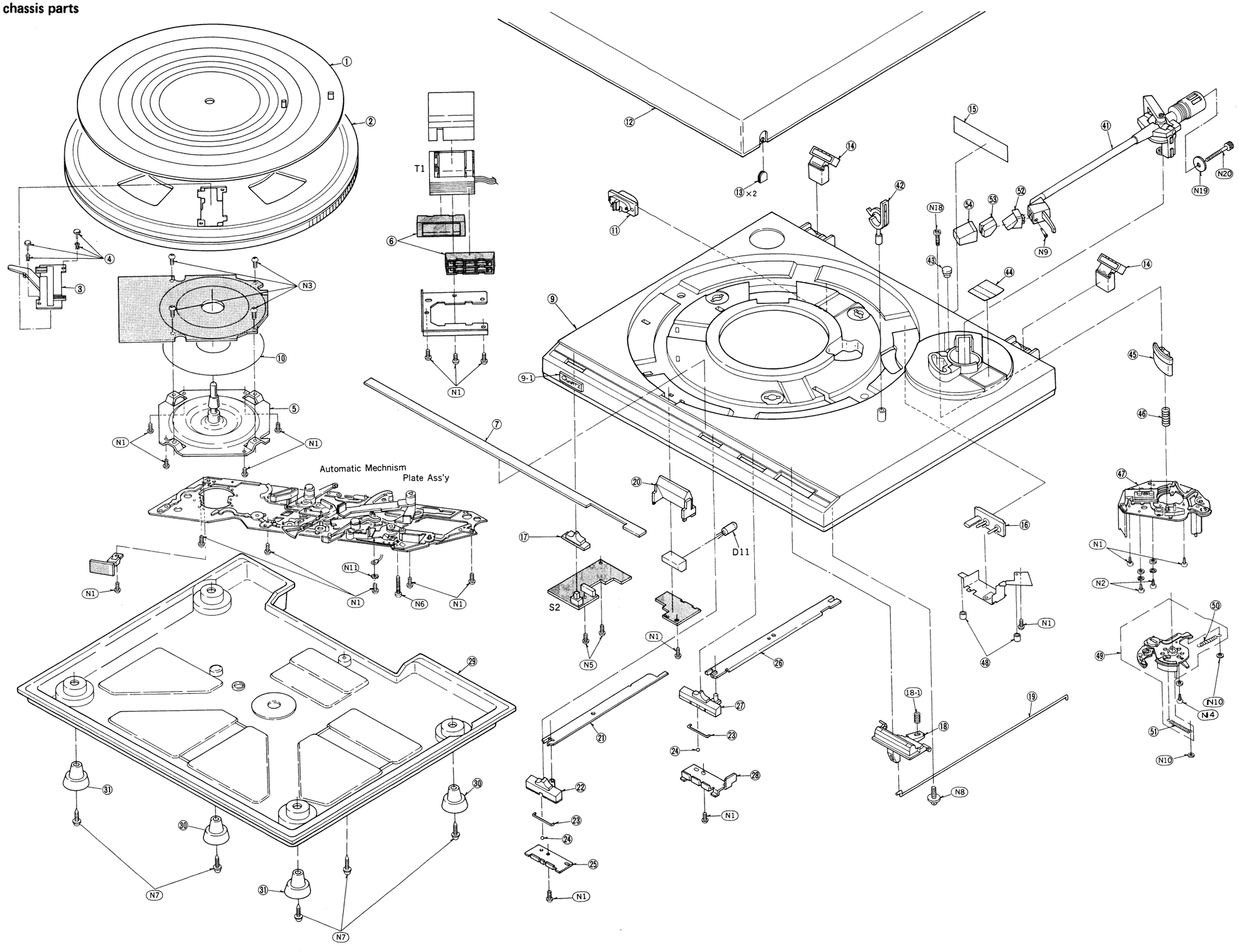
Notes:
1. Part numbers are indicated on most mechanical parts.
2. Important safety notice:
   Components identified by ⚠ mark have special characteristics important for safety.
   When replacing any of these components, use only manufacturer's specified parts.
3. Bracketed indications in Ref. No. columns specify the area.
   Parts without these indications can be used for all areas.
4. The "Ⓢ" mark is service standard parts and may differ from production parts.
5. The parenthesized numbers in the column of description stand for the quantity per set.

Areas
* [E] is available in Switzerland and Scandinavia.
* [EK] is available in United Kingdom.
* [XL] is available in Australia.
* [EG] is available in F.R. Germany.
* [EB] is available in Belgium.
* [EH] is available in Holland.
* [EF] is available in France.
* [Ei] is available in Italy.
* [EC] is available in Czechoslovakia.
* [XA] is available in Southeast Asia, Oceania, Africa, Middle Near East and Central South America.
* [XM] is available in Central South America.
* [PA] is available in far East PX.
* [PE] is available in European Military.
* [PC] is available in European Audio Club.

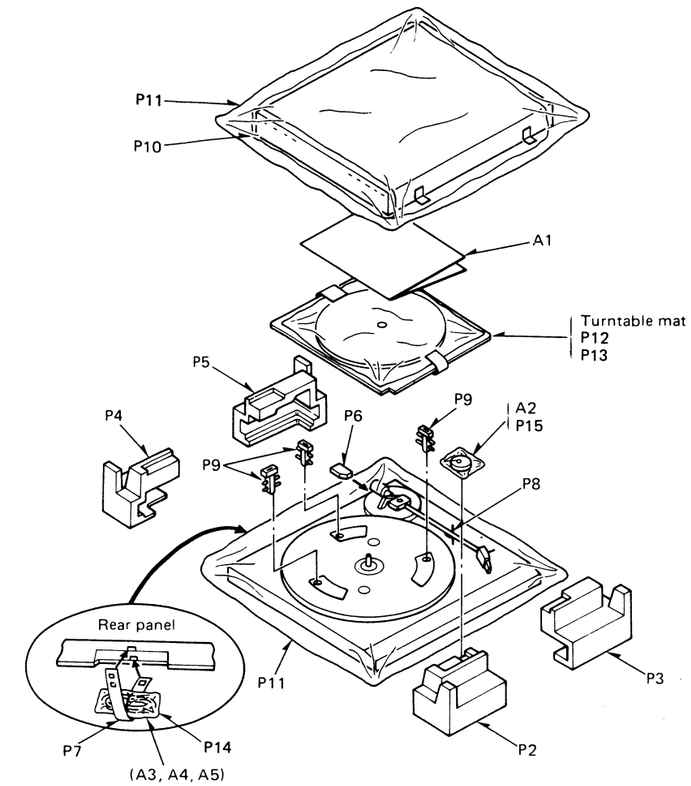
Ref. No.	Part No.	Description
INTEGRATED CIRCUITS		
IC1	AN78M12	Regulator
IC101	AN6637	Drive
IC102	AN6683	Control
TRANSISTOR		
Q11	2SD638	Strobe Drive
DIODES		
D1 ⚠	SVDS1WB40	Rectifier
D11	SVDEBR5505S	Light Emitting Diode, Strobe
HALL ELEMENTS		
H101,102	OH-002	Turntable Position Detector
CRYSTAL		
X201	SVQMS4193	4.193MHz
SWITCHES		
S1 ⚠	SFDSSS5GLP	On/Off
S2	SFDSHSW0739	Speed Selector
S901 ⚠	SFDSHXW225-2	Voltage Selector
[XA,XM EK,PA PE,PC]		
FUSE		
F1	XBA2C05TR0	T500mA,250V
F902 [XA,XM PA,PE PC,EK]	XBA2C016TR0	T160mA,250V
POWER TRANSFORMER		
T1 (XL) ⚠	SLT48DTE13E	Power Source
T1 [XA,XM PA,PE PC,EK] ⚠	SLT57DT7E	Power Source
T1 [other areas] ⚠	SLT48DT10E	Power Source
CAPACITORS		
C1 ⚠	ECQM1223KZ	Polyester,100V, 0.022μF,±10%
C2,3 ⚠Ⓢ	ECKD1H223PF	Ceramic,50V, 0.022μF,$\pm^{100}_{0}$%
C4 Ⓢ	ECEB1VS102	Electrolytic,35V,1000μF
C5,6	ECKF1H104ZF	Ceramic,50V,0.1μF,$\pm^{80}_{20}$%
C11 Ⓢ	ECEA50Z2R2	Electrolytic,50V,2.2μF
C101 Ⓢ	ECEA1CS330	Electrolytic,16V,33μF
C102 Ⓢ	ECEA50ZR22	Electrolytic,50V,0.22μF
C103 Ⓢ	ECQM1H274JZ	Polyester,50V, 0.27μF,±5%
C105,106 ⚠Ⓢ	ECEA1CN470S	Non Polar Electrolytic, 16V,47μF
C107 Ⓢ	ECKD1H223ZF	Ceramic,50V, 0,022μF,$\pm^{80}_{20}$%
C201 Ⓢ	ECEA1CS330	Electrolytic,16V,33μF
C202 Ⓢ	ECEA50ZR22	Electrolytic,50V,0.22μF
203 Ⓢ	ECQM1H683KV	Polyester,50V, 0.068μF,±10%
C204	ECUV1H101JCM	Chip Ceramic,50V, 100pF,±5%
C205	ECUV1H330JCM	Chip Ceramic,50V, 33pF,±5%
C206	ECUV1H101JCM	Chip Ceramic,50V, 100pF,±5%
C207 Ⓢ	ECEA1AS470	Electrolytic,10V,47μF
C208 Ⓢ	ECEA1AS470	Electrolytic,10V,47μF
RESISTORS		
R11 Ⓢ	ERD25TJ123	Carbon,¼W,12KΩ,±5%
R12 Ⓢ	ERD25FJ151	Carbon,¼W,150Ω,±5%
R103	ERD10TLJ104U	Chip Carbon,⅛W, 100KΩ,±5%
R104 Ⓢ	ERX1ANJ1R8	Metal Film,1W, 1.8Ω,±5%
R105	ERD10TLJ150U	Chip Carbon,⅛W, 15Ω,±5%
R201	ERD10TLJ393U	Chip Carbon,⅛W, 39KΩ,±5%
R202	ERD10TLJ394U	Chip Carbon,⅛W, 390KΩ,±5%
R203	ERD10TLJ121U	Chip Carbon,⅛W, 120Ω,±5%
R204	ERD10TLJ151U	Chip Carbon,⅛W, 150Ω,±5%
R205	ERD10TLJ223U	Chip Carbon,⅛W, 22KΩ,±5%
R207	ERD10TLJ222U	Chip Carbon,⅛W, 2.2Ω,±5%
R208	ERD10TLJ680U	Chip Carbon,⅛W, 68Ω,±5%
CABINET AND CHASSIS PARTS		
1	SFTGQ63M01	Turntable Mat (1)
2	SFTEQ63M01A	Turntable Platter (1)
3	SFUMQ34N01E	Record Size Detector (1)
4	SFUZD33-01E	Latch,Record Size Detector (2)
5	SFMZQ63M53A	Stator Frame Ass'y (1)
6 [XA,XM EK,PA PE,PC]	SFGCC05X01	Cushion Rubber,Power Transformer (2)
6 [other areas]	SFGCC05N02	Cushion Rubber,Power Transformer (2)
7	SFKKQ63M01	Surface Plate (1)
9	SFACQ63M01R	Cabinet (with Badge) (1)
9-1	SFKBQ63M01	Badge, Cabinet (1)
10	SFMGQ34N01	Cover, Stator Coil (1)
11 (XL) ⚠	SFDJHSC0491	Socket,AC Cord (1)
11 (XA,XM) ⚠	SFDJHSC04912	Socket,AC Cord (1)
11 [other areas] ⚠	SFDJHSC0498	Socket,AC Cord (1)
12	SFADZ15R01	Dust Cover (1)
13	SFGZZ15R01	Cushion Rubber,Dust Cover (2)
14	SFATZ15R01A	Hinge (2)
15 (E,EC)	SFNNQ63S01	Name Plate (1)
15 (EK,XL)	SFNNQ63G01	Name Plate (1)
15 (XA,XM)	SFNNQ63X01	Name Plate (1)
15 (PA,PE)	SFNNQ63P01	Name Plate (1)
15 (PC)	SFNNQ63P02	Name Plate (1)
15 [other areas]	SFNNQ63R01	Name Plate (1)
16	SFDJZ15R01	Jack,Phono Output (1)
17	SFKTZ15R02	Knob,Speed Selector Switch (1)
18	SFKTZ15R01	Button,Start/Stop (1)
18-1	SFQHZ15R01	Spring,Start/Stop Button (1)
19	SFUZB63M01	Rod,Start/Stop (1)
20	SFUMB62M01	Cover,Strobe (1)
21	SFUPB63M01	Lever,Repeat (1)
22	SFKTB63M01	Knob,Repeat Lever (1)
23	SFQPZ15R02	Spring (2)
24	SFYB-5-32	Ball (2)
25	SFUPB63M02	Plate (1)
26	SFUPZ15R03	Lever,Cueing (1)
27	SFKTZ15R04	Knob,Cueing Lever (1)
28	SFUPZ15R05	Plate (1)
29	SFAUZ15R01	Bottom Board (1)
30	SFGAQ63M01	Audio Insulator(Rear) (2)
31	SFGAZ15R01	Audio Insulator(Front) (2)
TONEARM PARTS		
41	SFPAMQ3202A	Tonearm Ass'y (1)
42	SFKUB63M01E	Arm Rest (1)
43	SFGK170-01	Cap,Rubber (1)
44	SFKKZ15R01	Plate,Canceler (1)
45	SFUMZ15R58	Cover,Arm Lift (1)
46	SFQAZ15R52	Spring,Arm Lift (1)
47	SFUPB63M51A	Plate,Arm Lift Ass'y (1)
48	SFGZZ15R02	Holder (2)
49	SFUPB63M52A	Plate,PU Fixing Ass'y (1)
50	SFQHB63M56	Spring (1)
51	SFQHZ15R55	Spring (1)
52 [other areas]	EPC-P30K	★Cartridge (1)
52 [PA,PE PC]	EPC-P28K	★Cartridge (1)
53 [other areas]	EPS-30ES	★Stylus (1)
53 [PA,PE PC]	EPS-28ES	★Stylus (1)
54	SFCNC03301	Cover,Cartridge (1)
AUTOMATIC MECHANISM PLATE		
60	SFUMQ63M51E	Record Size Detector Ass'y (1)
61	SFQHB63M53	Spring,Record Size Detector (1)
62	SFQHB63M54	Spring,Repeat Lever (1)
63	SFUMB63M58	Lever,Repeat (1)
64	SFUMB63M59	Lever,Cueing (1)
65	SFQHB63M55	Spring,Cueing Cam (1)
66	SFQPB63M52	Spring,Cueing Cam (1)
67	SFUMB63M60	Cam,Cueing (1)
68	SFQSB63M52	Spring,Brake Lever (1)
69	SFUZB63M52	Felt,Brake Lever (1)
70	SFUMB63M61	Lever,Brake (1)
71	SFUMB63M64E	Plate(B)Ass'y,Index (1)
72	SFUMB63M63	Plate(A),Index (1)
73	SFQPB63M53	Spring,Index Sub Plate (1)
74	SFUMB63M62	Sub Plate,Index (1)
75	SFUMB63M65	Guide,Switch Lever (1)
76	SFUBB63M51E	Plate Ass'y,Drive (1)
77	SFUMB63M55E	Lever Ass'y,Switch (1)
78	SFQHB63M52	Spring,Switch Lever (1)
79	SFUKB63M51E	Plate Ass'y,Automatic Mechanism (1)
80	SFUZQ63M01	Cover,Lead Wires (1)
81	SFUMQ62M53E	Lever Ass'y,Cancel (1)
82	SFQHB63M51	Spring,Cancel Lever Ass'y (1)
83	SFUGB63M51E	Main Gear Ass'y (1)
84	SFQSB63M51	Rod,Drive Operation (1)
85	SFUMB63M54	Lever,Drive Operation Rod (1)
86	SFUMZ15R56	Pin (7)
SCREWS AND WASHERS		
N1 Ⓢ	XTV3+8BFN	Screw (19)
N2	XYN3+F12	Screw (2)
N3 Ⓢ	XTV3+6BFN	Screw (6)
N4	XYC3+CG8	Screw (1)
N5	XTW3+8Q	Screw (1)
N6	XTV3+30J	Screw (1)
N7	XTW3+14QFYR	Screw (5)
N8	SFXGB33N01	Screw (1)
N9	SFPEVOP301	Screw (1)
N10	SFXWZ15R51	Washer (11)
N11 Ⓢ	XWC3	Washer (1)
N13	SFXWB63M52	Washer (1)
N14	SFXWQ34N22	Washer (1)
N15	SFXWB63M51	Washer (2)
N16	SFXWB63M52	Washer (1)
N17	SFUMZ15R61	Washer (2)
N18	XTS3+16FFZ	Screw (1)
N19	SFPEWQ3201	Washer (1)
N20	SFPEVQ3201	Screw (1)

■ EXPLODED VIEWS

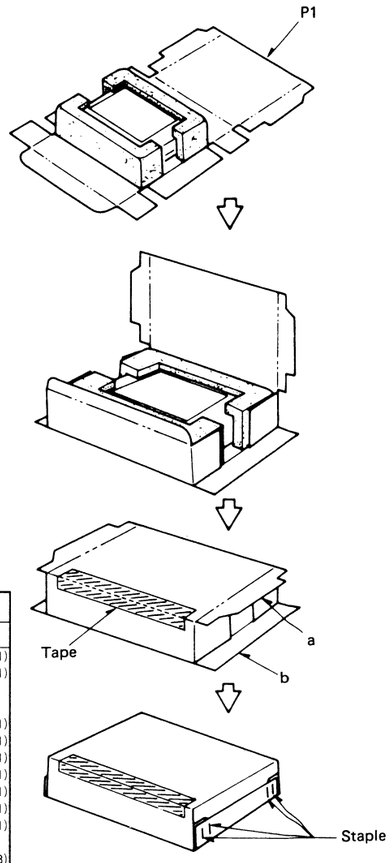
• Cabinet and chassis parts



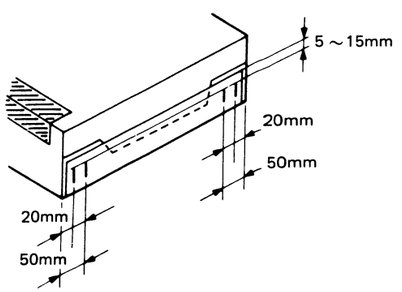
■ PACKINGS



1. Plase the unit (with cushions attached) as illustrated.
2. Fold the flaps according to the line marks.
3. Seal the top with adhesive tape.
   * Use gum tape or adhesive cloth tape of 50mm wide at least.
4. For the edges, first fold the flap "a" and then flap "b", and staple. Remember to staple only flap "b". (Use 15 or 16mm staple)

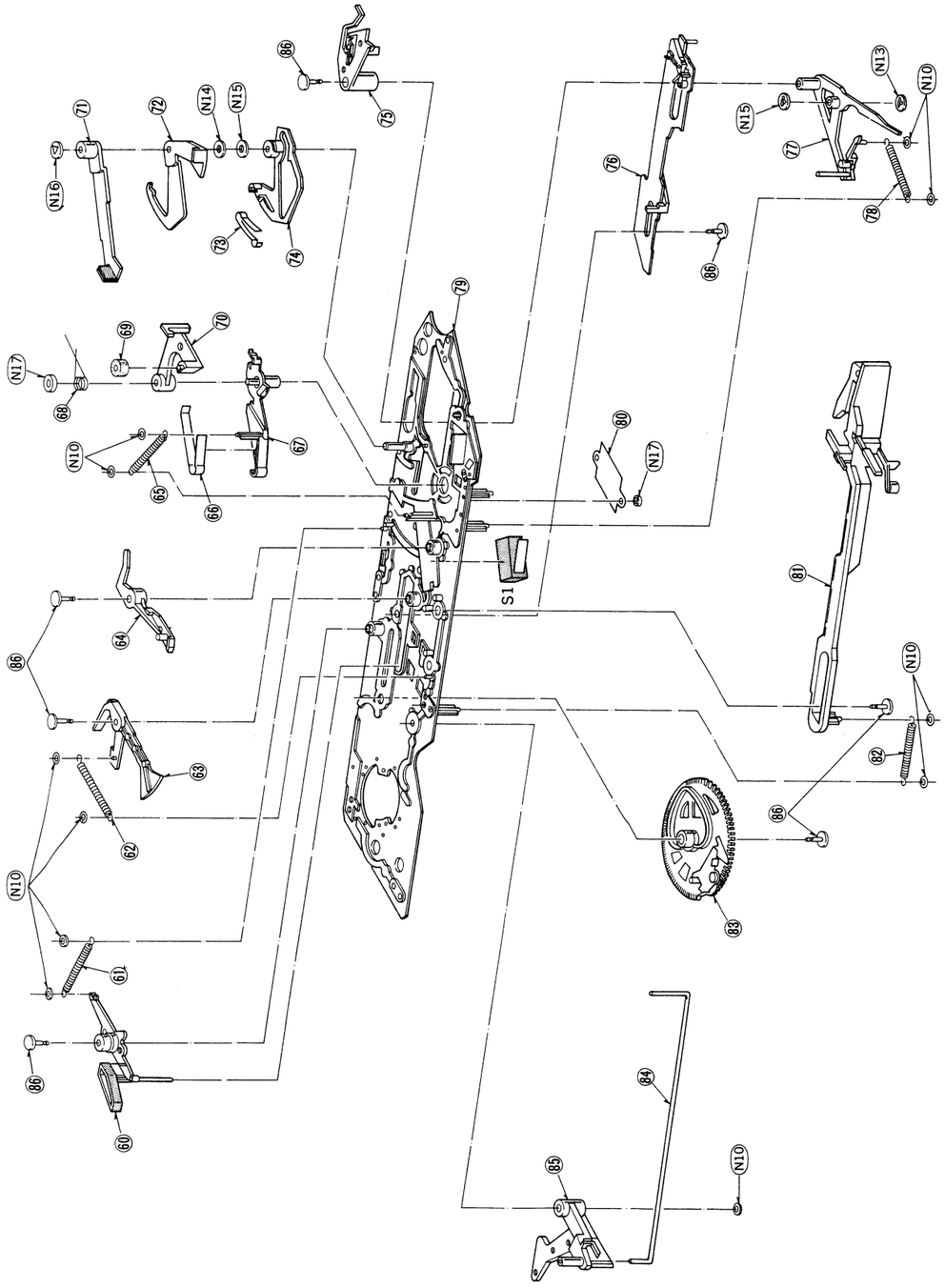


* Stapling positions are shown below.



Ref. No.	Part No.	Description	
ACCESSORIES			
A1 [EK]	SFNUQ63G01	Instruction Book	(1)
A1 [XL,XA XM]	SFNUQ63X01	Instruction Book	(1)
A1 [EG]	SFNUQ63R01	Instruction Book	(1)
A1 [EF]	SFNUQ63F01	Instruction Book	(1)
A1 [EI]	SFNUQ63I01	Instruction Book	(1)
A1 [PA,PE PC]	SFNUQ63P01	Instruction Book	(1)
A1 [other areas]	SFNUQ63S01	Instruction Book	(1)
A2	SFWE212-01	Adaptor,45r.p.m.	(1)
A3 (XL) ⚠	SFDAC05L01	AC Cord	(1)
A3 (EK) ⚠	SFDAC05G02	AC Cord	(1)
A3 (XA,XM) ⚠	SFDAC05L01	AC Cord	(1)
A3 [PA,PE PC] ⚠	SFDAC05N01	AC Cord	(1)
A3 [other areas] ⚠	SFDAC05E02	AC Cord	(1)
A4	SFDHC05N01	Phono Cord	(1)
A5 (XL)	SFDLC05N01	Grand Wire	(1)
A5 [other areas]	SFDLZ15R01	Grand Wire	(1)
A6 (XA,XM) ⚠	SFDKI19118	2Pin Plug	(1)
A6 [PA,PE PC] ⚠	QJP0603S	2Pin Plug	(1)

Ref. No.	Part No.	Description	
PACKING PARTS			
P1 (EF)	SFHPQ63C01	Carton Box	(1)
P1 [other areas]	SFHPQ63M01	Carton Box	(1)
P2	SFHHQ63M01	Pad,Front(Left)	(1)
P3	SFHHQ63M02	Pad,Front(Right)	(1)
P4	SFHHQ63M03	Pad,Rear(Left)	(1)
P5	SFHHQ63M04	Pad,Rear(Right)	(1)
P6	SFHZZ15R01	Pad,Tonearm	(1)
P7	SFHZZ15R02	Stopper,AC Cord	(1)
P8	SFHZZ15R03	Clamper,Tonearm	(1)
P9	SFHKB63M01	Clamper,Turntable Platter	(3)
P10	SFHZD03M01	Sheet	(1)
P11	SFYH60×60	Polyethylene Bag, Unit/Dust Cover	(2)
P12	SFYF30B35	Polyethylene Bag, Turntable Mat	(1)
P13	SFHDZ15R01	Pad,Turntable Mat	(1)
P14	SFYH17×16	Polyethylene Bag,Cords	(1)
P15	SPJ15	Polyethylene Bag, 45r.p.m.Adaptor	(1)



• Automatic mechanism plate parts

Printed in Japan
8304105O0 Ⓗ AM/YW/SM

ORDER NO. SD83042472C9-A

DEUTSCH

Turntable System SL-Q300

- This booklet contains the specifications and adjusting procedures for SL-Q300, written Germany, French and Spanish.
- File this manual together with the SL-Q300 service manual (Order No. SD83042472C9).

- Diese Broschüre enthält die technischen Daten und die Beschreibungen der Justiermethoden für SL-Q300 in deutscher, französischer und spanisher Sprache.
- Bewahren Sie das Büchlein zusammen mit der Bedienungsanleitung für SL-Q300 (Betstell-Nr. SD83042472C9) auf.

- Cette brochure contient les spécifications et les procédures de réglage pour le SL-Q300, écrites en allemand, en français et en espagnol.
- Classer ce manuel en même temps qu'avec le manuel de service du SL-Q300 (N° d'ordre: SD83042472C9).

- Este librito contiene las especificaciones y procedimientos de ajuste para SL-Q300, escritas en alemán, francés y español.
- Guardar este manual juntamente con el manual de servicio de SL-Q300 (Pedido N°. SD83042472C9).

DEUTSCH

■ TECHNISCHE DATEN

Änderungen der technischen Daten vorbehalten.
Die angegebenen Gewichts- und Abmessungsdaten sind ungefähre Werte.

■ Allgemeine Daten

Stromversorgung:
Für Kontinentaleuropa: Wechselstrom 50 Hz, 220V
Für andere Länder: Wechselstrom 50 Hz/60 Hz, 110-120V/220-240V

Leistungsaufnahme: 5 W

Abmessungen (B×H×T): 43 x 10 x 37.5 cm
43 x 37 x 41 cm
Maximale Höhe bei geöffnetem Oberteil (Staubabdeckung).

Gewicht: 4.5 kg

■ Plattenspieler

Typ: Quarz-Direktantrieb
Automatischer Plattenspieler
Startautomatik
Rückführautomatik
Stopautomatik
Wiederhol-Betrieb
Manueller Betrieb

Antrieb: Direktantrieb
Motor: Kollektorloser Gleichstrommotor
Antriebsregel-Methode: Quarz-Steuerung QPL
Plattenteller: Aluminium-Spritzguß
Durchmesser 31,2 cm

Plattenteller-Drehzahlen: 33-1/3 und 45 U/min

Gleichlaufschwankungen: 0,012% WRMS*
0,025% WRMS (JIS C5521)
±0,035% Spitze (IEC 98A bewertet)

*Diese Nennleistung bezieht sich auf das Laufwerk-Bauteil allein, ausschließlich Einflüsse von Schallplatte, Tonabnehmer oder Tonarm, aber einschließlich Plattenteller. Gemessen anhand von Signalen vom eingebauten Frequenzgenerator des Motorbauteils.

Rumpel-Fremdspannungsabstand: −56 dB (IEC 98A unbewertet)

Rumpel-Geräuschspannungsabstand: −78 dB (IEC 98A bewertet)

■ Tonarm

Type: Statisch balancierter gerader Tonarm Tonabnehmersystem vom Einsteck-Typ

Effektive Länge: 230 mm
Überhang: 15 mm
Spurfehlwinkel: 2°32' bei der Einlaufrille einer 30 cm-Platte
0°32' bei der Auslaufrille einer 30 cm-Platte

Effektive Masse: 7,5 g (ohne Tonabnehmer)
13.5 g (einschließlich Tonabnechmer)

Auflagekraft-Einstellbereich: 1,25±0,25 g
Zulässiger Tonabnehmer-Gewichtbereich: 6 g

■ Tonabnehmer

Typ: Stereo-Magnet-Tonabnehmer mit Einpunkt-Aufhängungs-system

Magnetkreis: Ganzlamellenkern
Frequenzgang: 10 Hz bis 40 kHz
20 Hz bis 10 kHz ±1 dB
Ausgangsspannung: 2,5 mV bei 1 kHz
5 cm/s. Null-zu-Spitze, lateral
[7 mV bei 1 kHz 10 cm/s. Null-zu-Spitze, 45° (DIN 45 500)]
Kanaltrennung: 22 dB bei 1 kHz
Kanalabweichung: Innerhalb 2 dB bei 1 kHz
Empfohlene Endimpedanz: 47 kΩ~100 kΩ
Nachgiebigkeit (dynamisch): 12×10^{-6} cm/dyn bei 100 Hz
Auflagekraft-Einstellbereich: 1,25±0,25 g (12,5±2,5 mN)
Gewicht: 6 g (nur Tonabnehmer)
Ersatznadel: EPS–30ES

■ JUSTIERUNGEN

• Justierung der Tonarmlifthöhe

Die Tonarmlifthöhe, d.h. der Abstand zwischen Nadelspitze und Schallplattenoberfläche bei Liftsteuerungs-Position "▼", wurde werkseitig auf ca. 4 ~ 6 mm eingestellt. **(Abb. 8)**

Falls der Abstand zu klein oder zu groß ist (z.B. wegen der unterschiedlichen Tonabnehmer-Abmessungen, drehen Sie die Justierschraube im Uhrzeigersinn oder entgegen dem Uhrzeigersinn. **(Abb. 9)**

Drehung im Uhrzeigersinn

– Der Abstand zwischen der Platte und der Nadelspitze wird kleiner.

Drehung entgegen dem Uhrzeigersinn

– Der Abstand zwischen der Platte und der Nadelspitze wird größer.

• Justierung des Aufsetzpunktes der Automatik (Abb. 10)

Anmerkung:

Die Auto-Start- und die Auto-Rückkehr-Positions-Justierschraube sind zusammen angeordnet.

Wenn der Tonarm in der Nähe oder auf der Tonarmablage ist, so ist die Auto-Start-Positions-Justierschraubesichtbar. **(Abb. 10)**

Wenn der Tonarm in der Nähe der Plattenmitte ist, so ist die Auto-Rückkehr-Justierschraube sichtbar. **(Abb. 11)**

Wenn die Abtastnadel nicht in der Einlaufrille aufsetzt, justieren Sie wie folgt.

1. Befestigen Sie den Tonarm mit der Arretierklammer auf der Tonarmablage.
2. Nehmen Sie die Gummikappe von der Auto-Start-Positions-Justierschraube ab.
3. Drehen Sie die Justierschraube im Uhrzeigersinn oder entgegen dem Uhrzeigersinn, wie erforderlich.

Falls der Aufsetzpunkt im Wiedergabeteil der Schallplatte liegt.

–Entgegen dem Uhrzeigersinn drehen.

Falls der Aufsetzpunkt außerhalb der Platte liegt.

–Im Uhrzeigersinn drehen.

Justieren Sie so, daß die Nadelspitze 1–2 mm vom Rand entfent auf der Platte aufsetzt.

• Justierung des Abschaltpunktes der Automatik (Abb. 11)

1. Setzen Sie zuerst den Nadelschutz auf.
2. Die Gummikappe abnehmen.
3. Führen Sie den Tonarm gegen die Plattenmitte.
   Die Justierschraube für den Abschaltpunkt der Automatik wird dann sichtbar.

Falls der Tonarm zu früh zurückkehrt.

–Entgegen dem Uhrzeigersinn drehen.

Falls der Tonarm nach Erreichen der Auslaufrille nicht zurückkehrt.

–Im Uhrzeigersinn drehen.

FRANÇAIS

■ CARACTERISTIQUES

Les spécifications sont susceptibles d'être modifiées sans préavis.
Le poids et les dimensions donnés sont approximatifs.

■ Généralités

Alimentation:
Pour l'Europe: CA 50 Hz, 220V
Autres: CA 50 Hz/60 Hz, 110-120V/220-240V
Consommation: 5W
Dimensions: 43 x 10 x 37.5 cm
(L×H×P) [Hauteur maximum lorsque le dessus (couvercle protège-poussière) est ouvert. 43 x 37 x 41 cm]
Poids: 4.5 kg

■ Platine de lecture

Type: Entraînement direct à quartz
Platine automatique
Démarrage automatique
Retour automatique
Arrêt automatique
Audition répétée
Audition à commande manuelle
Système d'entraînement: Entraînement direct
Moteur: Moteur C.C. sans balai
Groupe de réglage: Réglage d'accrochage de phase par quartz
Plateau de lecture: En aluminium moulé sous pression
Diamètre 31,2 cm
Vitesses de rotation: 33-1/3 et 45 t/p.m
Pleurage et scintillement: 0,012% de valeur efficace*
0.025% de valeur efficace (JIS C5521)
±0,035% de crête (IEC 98A Pondéré)

*Ce régime nominal se rapporte à l'ensemble du tourne-disque seul, excluant les effets du disque, de la cellule pick-up ou du bras de lecture, mais comprenant le plateau, Mesuré par l'obtention d'un signal provenant du générateur de fréquences incorporé de l'ensemble du moteur.

Ronflement: −56 dB (IEC 98A Non pondéré)
−78 dB (IEC 98A Pondéré)

■ Bras de lecture

Type: Bras de lecture rectiligne statiquement équilibré. Système de cellule de lecture à connecteur enfichable.
Longueur effective: 230 mm
Porte-à-faux: 15 mm
Angle d'erreur de piste: En deçà de 2° 32' au sillon extérieur d'un disque de 30 cm.
En deçà de 0° 32' au sillon intérieur d'un disque de 30 cm.
Masse réelle: 7,5 g (sans la cellule pick-up)
13,5 g (y compris la cellule pick-up)
Plage de réglage de la pression d'appui: 1,25±0,25 g
Gamme du poids des cellules pick-up utilisables: 6 g

■ Cellule pick-up

Type: Cellule pick-up stéréo à aimant mobile
Circuit magnétique: Noyau entièrement feuilleté
Réponse en fréquence: 10 Hz a 40 kHz
20 Hz à 10 kHz±1 dB
Tension de sortie: 2,5 mV à 1kHz 5 cm/s., zéro à vitesse latérale de crête
[7 mV à 1 kHz
10 cm/s., zéro à vitesse 45° de crête (DIN 45 500)]
Séparation des canaux: 22 dB à 1 kHz
Equilibrage des canaux: En deçà de 2 dB à 1kHz
Impédance de charge recommandée: 47 kΩ~100 kΩ
Elasticité (dynamique): 12×10^{-6} cm/dyne à 100 Hz
Plage de la force verticale d'appui: 1,25±0,25 g (12,5±2,5 mN)
Poids: 6 g (cellule seule)
Pointe de lecture de remplacement: EPS−30ES

■ RÉGLAGES

- **Mise au point de la hauteur de l'élévateur du bras**

La hauteur de l'élévateur du bras (distance entre l'extrémité de la pointe de lecture et la surface du disque, lorsque la commande de pose et de relevage est à la position "▼") a été réglée en usine sur approximativement 4 à 6 mm. **(Fig. 8)**
Si l'écartement est trop étroit ou trop large, tourner la vis de réglage dans le sens des aiguilles d'une montre ou dans le sens contraire. **(Fig. 9)**
Rotation dans le sens des aiguilles d'une montre.
— La distance entre la surface du disque et l'extrémité de la pointe de lecture diminue.
Rotation dans le sens contraire des aiguilles d'une montre.
— La distance entre la surface du disque et l'extrémité de la pointe de lecture augmente.

- **Mise au point de la position de démarrage automatique (Fig. 10)**

Nota:
Les vis de réglage du démarrage automatique et du retour automatique sont disposées ensemble.
Lorsque le bras de lecture est sur ou près de l'accoudoir du bras, la vis de réglage de démarrage automatique est visible **(Fig. 10)** lorsque le bras de lecture est près du centre d'un disque, la vis de réglage du retour automatique est visible. **(Fig. 11)**

Si la pointe de lecture ne repose pas dans le sillon d'entrée, ajuster de la manière suivante.
1. Bloquer le bras de lecture sur le support du bras.
2. Retirer le capuchon en caoutchouc. **(Fig. 10)**
3. Avec un tournevis, tourner la vis de réglage dans le sens des aiguilles d'une montre ou dans le sens inverse selon la nécessité.

Si la tête de la pointe de lecture se dépose trop loin du sillon enregistré,
—tourner dans le sens contraire des aiguilles d'ue montre.
Si la tête de la pointe de lecture se dépose en dehors du disque,
—tourner dans le sens des aiguilles d'une montre.
Ajuster de façon à ce que l'extrémité de la pointe de lecture atterrisse à 1—2 mm à partir du bord du disque.

- **Mise au point de la position de retour automatique (Fig. 11)**

(Retirer le tapis du plateau de lecture.)
1. Placer le capot protecteur de la pointe de lecture sur la cellule pick-up.
2. Déplacer le bras de lecture vers le centre du disque.
Alors, la vis de réglage du retour automatique apparaîtra.

Si le bras de lecture tend à revenir vers le support du bras avant que l'audition ne soit terminée.
—tourner dans le sens contraire des aiguilles d'une montre,
Si le bras de lecture ne peut revenir en arrière après le dernier sillon,
—tourner dans le ses des aiguilles d'une montre.

ESPAÑOL

■ ESPECIFICACIONES

Las especificaciones quedan sujetas a cambios sin aviso previo.
El peso y las dimensiones indicados son apromimados.

■ En general

Alimentación de corriente:
Para Europa continental: CA 50 Hz, 220V
Para otros paises: CA 50 Hz/60 Hz, 110-120V/220-240V
Consumo de corriente: 5 W
Dimensiones: (**Ancho** × **Alto** × **Prof.**)
43 x 10 x 37.5 cm
43 x 37 x 41 cm
Altura máxima cuando la parte de arriba (tapa contra el polvo) está abierta.
Peso: 4.5 kg

■ Sección del plato giratorio

Tipo: Accionamiento directo por cuarzo
Plato giratorio automático
Arranque automático
Retorno automático
Parada automática
Ejecución repetida
Ejecución manual
Método de accionamiento: Accionamiento directo
Motor: Motor de corriente continua sin escobillas
Método de control de accionamiento: Control enclavado de fase de cuarzo
Platillo del plato giratorio: Aluminio fundido
Diámetro 31,2 cm
Velocidades del plato giratorio: 33-1/3 y 45 rpm
Ululaciones y trémolo: 0,012% WRMS*
0,025% WRMS (JIS C5521)
±0,035% cresta
(IEC 98A Ponderado)

*Estas características se refieren únicamente al conjunto del plato giratorio, con exclusión de los efectos provenientes del disco, cartucho o del brazo sonoro, incluyendo, empero, el platillo. La medida fue tomada por medio de la señal obtenida del generador de frecuencia incorporado del conjunto del motor.

Ruido de rodadura: −56 dB (IEC 98A No ponderado)
−78 dB (IEC 98A Ponderado)

■ Sección del brazo sonoro

Tipo: Brazo sonoro recto equilibrado estáticamente
Sistema de cartucho con conector enchufable
Longitud efectiva: 230 mm
Proyección: 15 mm
Angulo de error de seguimiento: Inferior a 2°32′ en el surco exterior de un disco de 30 cm
Inferior a 0°32′ en el surco interior de un disco de 30 cm
Masa efectiva: 7,5 g (sin cartucho)
13,5 g (incluyendo el cartucho)
Radio de ajuste de la presión de la aguja: 1,25±0,25 g
Radio de peso de cartucho utilizable: 6 g

■ Sección del cartucho

Tipo: Cartucho estereofónico de imán móvil
Circuito magnético: Núcleo totalmente laminado
Respuesta de frecuencia: 10 Hz à 40 kHz
20 Hz a 10 kHz ±1 dB
Voltaje de salida: 2,5 mV a 1 kHz
Con velocidad lateral de cero a cresta de 5 cm/s
[7 mV a 1 kHz velocidad de 45° de cero a cresta de 10 cm/s (DIN 45 500)]
Separación de canales: 22 dB a 1 kHz
Equilibrio de canales: Inferior a 2 dB a 1 kHz
Impedancia de carga recomendada: 47 kΩ a 100 kΩ
Elasticidad (dinámica): 12×10^{-6} cm/dina a 100 Hz
Radio de presión de la aguja: 1,25±0,25 g (12,5±2,5 mN)
Peso: 6 g (cartucho solamente)
Aguja de recambio: EPS–30ES

■ AJUSTES

• Ajuste de la altura de elevación del brazo

La altura de elevación del brazo (o sea, la distancia entre la punta de la aguja y la superficie del disco cuando el control de colocación está en la posición "▼") ha sido regulada en la fábrica aproximadamente entre 4 y 6 mm. **(Fig. 8)**
En caso que la distancia fuese demasiado abundante o demasiado escasa, girar el tornillo de ajuste hacia la derecha o hacia la izquierda. **(Fig. 9)**
Rotación hacia la derecha
– reduce la distancia entre el disco y la punta de la aguja.
Rotación hacia la izquierda
– aumenta la distancia entre el disco y la punta de la aguja.

• Ajuste de la posición para el arranque automático (Fig. 10)

Nota:
Los respectivos tornillos de ajuste para arranque y retorno automáticos se encuentran juntos.
Cuando el brazo sonoro está puesto sobre el apoyo o cerca de éste, se dejará ver el tornillo de ajuste del arranque automático **(Fig. 10)**; estando cerca del centro del disco, se dejará ver el de ajuste del retorno automático. **(Fig. 11)**

En caso que la aguja no se depositara en el surco de comienzo, regular de la manera que sigue.
1. Sujetar el brazo sonoro al apoyo del mismo con la grapa.
2. Quitar la tapita de goma. **(Fig. 10)**
3. Girar el tornillito de ajuste hacia la derecha o hacia la izquierda usando un destornillador, según sea necesario.

En caso que la punta de la aguja se deposita muy dentro del surco grabado:
–Girar hacia la izquierda.
En caso que la punta de la aguja se deposita fuera del disco:
–Girar hacia la derecha.
Regular de manera tal que la punta de la aguja se deposite a uno o dos milímetros del borde del disco.

• Ajuste de la posición para retorno automático (Fig. 11)

(Quitar la aimohadilla del plato giratorio.)
1. Colocar la protección de la aguja en el cartucho.
2. Mover el brazo sonoro hacia el centro del disco.
   Con ello, aparecerá el tornillo de ajuste del retorno automático.
   Cuando el brazo sonoro tienda a volver a su apoyo antes de terminal la ejecución:

–Girar hacia la izquierda.
En caso que el brazo sonoro no vuelva después de haber tocado el último surco del disco:
–Girar hacia la derecha.

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